FROM 1985 PLANNING FOR 1986

Form 1

Seattle City Light
R&D Project Goals

Project Title: ALTERNATIVES TO DISPOSAL OF HAZARDOUS MATERIALS

I.D. Number: (to be assigned) F.O.
Date Started: 1/86
Expected Completion Date: 11/86

Sign-offs
Date: March 15, 1985
Org. Unit: 120
Project Manager: Terry Akita ~~New Assoc. Enviro Analyst~~
Supervisor: Lynn Best
Director: Tim Croll
Phone: (proj. manager)

I. Statement of Project Goals:

Washington State policy (contained in the solid waste statue) regarding hazardous wastes promotes recycling, reuse and treatment, leaving disposal as a last resort. In addition, beginning September 1, 1986, the federal Resources Conservation and Recovery Act requires signed certification that waste has been minimized. In coming years Seattle City Light will be disposing of a large amount of hazardous materials. Some examples are contaminated soils at some substations, the Geroge-town Steam Plant, and the South Service Center. We also routinely generate hazardous wastes from cleaning solutions, solvents, and PCB liquid-filled equipment. Seattle City Light needs to explore recycling and treatment technologies so that we will be in compliance with state policy.

It is to the department's benefit to minimize hazardous waste disposal and, in so doing, also minimize associated long-term liabilities should any release of contam-inants to the environment occur. The utility recently has incurred large costs due to liabilities associated with improper disposal of ballasts and transformers.

Numerous industries in Europe and in the U.S. have instituted programs to reduce or remove products from their hazardous waste streams. Economic savings, resource recovery, increasingly stringent waste storage and disposal laws, and the liability uncertainties linked to current disposal facilities all motivate firms to change their approach. Recycling in-system, waste exchanges with other utilities, chang-ing processes or products to reduce waste, reclaiming metals or other reuseables from slurries, liquids, or solids have been tried successfully in various industries.

The project goals will be to demonstrate new technologies in decontamination or treatment and to provide information for evaluation of the feasibility and cost differences of alternatives to disposal. The research products will assist City Light staff (Materials Management, Environmental Affairs, Engineering, Operation and Distribution) in decision-making in the coming year. It will facilitate finding the most cost-effective and environmentally sound hazardous waste management methods.

JS:cb(Form1.C.2)

Seattle City Light
R&D Project Objectives

Project Title: Alternatives to Disposal of Hazardous Waste **I.D.#**

I. Statement of Project Objectives	Milestones	Completion Date
Objective A. Seattle City Light has discovered several sites where the soils are PCB-Contaminated. A demonstration at one or more of these sites of a biological decontamination process will allow the Department to assess the feasibility and potential cost savings of treatment over excavation remedies. Objective B. Testing has shown that some City Light substations have PCB contamination in concrete foundations. Experimentation to test the effectiveness of decontamination by solvents will be conducted. Objective C. Seattle City Light generates hazardous waste on a routine basis. It is possible that our waste stream could be reduced by conservation, reuse, recycling, or use of alternative, non-hazardous products. An analysis of City Light's waste stream will be conducted and recommendations to achieve a reduction of wastes to be disposed of and best technologies for recycling, treatment, and disposal will be submitted. First, attempts would be made to reduce waste volume and toxcity by process changes and by selecting alternative products where possible. Second, recycling, including settling out solids from solvents or finding more applications to use up the same product, would be sought. This can include "exchanges" of products among divisions of the utility, such as between shops or service centers, if this does not now occur, Third, exchanges with other utilities, city departments, or businesses can be explored. Finally, disposal options which include recycling and reclamation components would be favored. For example, a firm which filters or distills used solvent would be preferred to a firm which burns it (a practice which the EPA may ban, anyway). (continued - see page 2C attached) **(See next page for specific questions.)**	Objectives A & B 1. Select potential demonstration sites 2. Obtain agency approval. 3. Produce RFP (with assistance from University of Washington) 2. Select Consultant 3. Decontamination demonstration project. 4. Document results. Objective C 1. Produce RFP 2. Select Consultant 3. Analysis of City Light Waste Stream. 4. Documentation of analysis with recommendations.	1/86 2/86 3/86 4/86 9/86 11/86 3/86 4/86 7/86 11/86

JS:cb(Form2.C.2)

I. Statement of Project Objectives (continued)

SCL employees involved in using the substances can most constructively contribute to the evaluations and propose alternatives. Indeed, in some companies, incentive and reward programs have been set up for this purpose.

Form 2A

Seattle City Light
R&D Project Objectives

Project Title: Alternatives to Disposal of Hazardous Waste **I.D.#**

Do not be constrained by the amount of space provided.

Who will do the research? Will the research be done by SCL staff, consultants, both, or, involve more than one SCL division?
Research and documentation will be done by Consultants. EAD will manage the contract. Engineering, Operation, & Materials Management may be involved in coordination of demonstration decontamination of soils and concrete. All divisions may be involved in interviews for waste stream analysis.

What is the project? e.g. How will the research be implemented? How will the samples be drawn? What test instruments will be used? How many case studies will be undertaken? How many hours of staff time will be spent each quarter of 1985 on this project?
Objective A: Demonstration project for soil decontamination will include earthmoving, application of bacteria innoculum and nutrients, and tilling. Concrete decontamination will be demonstrated and tested by scrubbing with various solvents. Monitoring for contaminant concentrations will be accomplished by consultant and contract laboratorie PCB analyses will use a gas chromatograph. (continued - see page 2B)

Where will the research take place? At an SCL site, laboratory, other utility?
Demonstration project for soil and concrete decontamination will take place in one or more SCL substations. Waste stream analysis will involve interviews of SCL staff a all facilities (remote locations may be done by phone).

When will these activities occur? e.g. Is the project schedule dependent on approval of persons not under your control? What milestones depend upon the approval of someone outside your division? When will equipment items be ordered, or consultants signed? When will consultant deliverables be available? When will research results achieve ultimate project goals?
All three objectives can be completed in one year. Objective A requires U.S. EPA approval (Milestone 2). EAD staff can initiate requests for approval in 1985.

How will be project be funded? Is funding expected from another source? Are related work products being produced by non-R&D studies, in the CIP or from other utilities?

R&D Budget

JS:cb(Form2.C.3)

Objective B: Waste stream will be analyzed by interviewing personnel for past practices. Inventory of substances used is already completed and will facilitate the analysis. Recommendations will be developed through interviews with local hazardous waste management firms and literature review. Interviews will take from .25 to 1 hour each, may involve 30 SCL staff members.

For the overall project, most SCL staff time will be for EAD project manager, an estimated total of 180 hours (120 in 1st quarter, 15 in the 2nd and 3rd quarters, and 30 in the 4th quarter).

Form 3

Seattle City Light
R&D Project Reporting Requirements

Project Title: Alternatives to Disposal of Hazardous Waste I.D.#

1. A quarterly project report will be submitted by project managers within 10 days of distribution of the SCL MIS reports for the months of March, June, September, December.

2. An annual progress report comparing planned and actual project progress will be submitted by January 31 each year on the previous years activities. For projects performed in-house, project data, results, or a summary of findings should be compiled each year and included in the annual progress report, even on multi-year monitoring efforts.

3. Consultant contract deliverable dates: (If none, so indicate.)

Final reports - 11/86

4. Presentations to R&D Committee: (If none, so indicate.)

Yes, if requested.

5. Additional reports: (If none, so indicate.)

Implementation report of waste stream reduction to be prepared in-house at end of 1987.

6. Final Report anticipated completion date:

See above.

JS:cb(Form3.C.2)

SEATTLE CITY LIGHT
R & D BUDGET
IN LABOR HOURS

PROJECT TITLE: Alternatives to Disposal of Haz Materials
ID NUMBER: F.B.

YEAR STARTED: 1986
YEAR COMPLETED: 1987

APPROVED

DATE: 6/18/85

ORG UNIT: 120
PROJ MGR:
SUPVR: L.Best
MANAGER:
DIRECTOR:T.Croll

ORG UNIT	AVG SAL PER HR	1985 HOURS	AVG SAL PER HR	1986 HOURS	AVG SAL PER HR	1987 HOURS	AVG SAL PER HR	1988 HOURS	AVG SAL PER HR	1989 HOURS
Regular Hrs:										
120			16.69	180						
Total Reg Hrs B.I. 11				180						
Overtime:										
Org Unit B.I. 12										
TOTAL HOURS:				180						

CTY0069135

SEA315549

SEATTLE CITY LIGHT R & D BUDGET
PROJECT BY BUDGET ITEM

PROJECT TITLE: Alternatives to Disposal of Haz Materials
ID NUMBER: F.8.

DATE: 6/18/85

ORG UNIT: 120

YEAR STARTED: 1986
YEAR COMPLETED: 1987

PROJ MGR:
SUPVR: L.Best
MANAGER:
DIRECTOR: T.Croll

BUDGET ITEM	BUDGET TITLE	ORG UNIT	1985	1986	1987	1988	1989
11	Salaries	120		3004.20	292.11	0.00	0.00
11				0.00	0.00	0.00	0.00
11				0.00	0.00	0.00	0.00
11				0.00	0.00	0.00	0.00
11				0.00	0.00	0.00	0.00
11				0.00	0.00	0.00	0.00
11				0.00	0.00	0.00	0.00
11				0.00	0.00	0.00	0.00
09	Vac/Sick/Out of Cl						
10	Spec Employment						
11	Total Salaries	120	0.00	3004.20	292.11	0.00	0.00
12	Overtime Labor						
14	Labor Loading	120	0.00	832.16	80.91	0.00	0.00
21	Material & Supply						
22	Office Supplies						
30	Research	120		90000.00	94410.00		
31	Professional Serv						
32	Insurance						
34	Telephone						
35	Paid Media Space	120		400.00	400.00		
36	Contractual Serv						
37	Contracted Eng/Arc						
38	DP/Priv Vendor						
45	Services/Other Gov						
48	DP/City						
60	Travel/In-System						
61	Travel/Outside Sys						
64	Postage						
66	Other Misc Expense						
72	Rent-Spec Work/Eqp						
102	Spec Work Equip						
103	Office Furn/Equip						
105	Acquis/Ld & Ld Rts						
TOTAL PROJECT			0	94236.36	95183.02	0.00	0.00

CTY0069136

SEA315550